

## REMARKS

Claims 1-38 and 40-119 are now pending in the application. Claim 39 has been cancelled. Claims 1, 14, 38, 52, 57, and 59 have been amended. Claims 29-37, 55, 56, 60-67, 85, 86, 90-97, 115, 116 were withdrawn from consideration and are cancelled. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

### Rejection Under 35 U.S.C § 101

Claim 57 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Applicant has amended Claim 57 to indicate that the calculated imaginary component is used to perform a step of adapting the carrier frequency offset estimate.

### REJECTION UNDER 35 U.S.C. § 102

Claims 1-6 are rejected under 35 U.S.C. § 102(b) as being anticipated by Mizoguchi et al., U.S. Pat. No.6,658,063. This rejection is respectfully traversed.

With respect to Claim 1, Mizoguchi et al. do not disclose **receiving** a preamble including **at least two adjacent short training symbols**; sampling said at least two adjacent short training symbols of said preamble at a first rate; and **correlating said at least two adjacent short training symbols** to generate a correlation signal.

Claim 1 recites correlating one received short training symbol with a second received short training symbol. As best understood by Applicants, **Mizoguchi et al. disclose correlating a known signal with a received signal** that includes short

training symbols. col. 6, lines 24-26. The known signal is not received. Therefore **Mizoguchi et al. does not** correlate one received short training symbol with a second received training symbol.

For anticipation to be present under 35 U.S.C §102(b), there must be no difference between the claimed invention and the reference disclosure as viewed by one skilled in the field of the invention. Scripps Clinic & Res. Found. V. Genentech, Inc., 18 USPQ.2d 1001 (Fed. Cir. 1991). All of the limitations of the claim must be inherent or expressly disclosed and must be arranged as in the claim. Constant v. Advanced Micro-Devices, Inc., 7 USPQ.2d 1057 (Fed. Cir. 1988). The applied reference fails to teach all of the limitations of Claim 1.

Claim 1 is allowable for at least this reason. Claims 2-6 are allowable for at least similar reasons.

Claims 14-16, 26, 28, 38-40, 42, 43, 47-49, 68-70, 72,73, 77-79, 98-100, 102, 103, and 107-109 are rejected under 35 U.S.C. § 102(b) as being anticipated by Belotserkovsky et al., U.S. Pat. No. 6,711,221. This rejection is respectfully traversed.

With respect to Claim 14, Belotserkovsky et al. do not disclose **correlating samples from the short training symbols in a first half of said sampling window with samples from the short training symbols in a second half of said sampling window** to generate a correlation signal.

As best understood by the applicants, **Belotserkovsky et al. disclose correlating between samples in a received signal and samples of a known signal stored in memory**, wherein the known signal includes less than all of the short training

symbols. Col. 4, line 63 – col. 5, line 16. The known signal is not received. Therefore **Belotserkovsky et al. does not** correlate one received short training symbol with a second received training symbol.

For anticipation to be present under 35 U.S.C §102(b), there must be no difference between the claimed invention and the reference disclosure as viewed by one skilled in the field of the invention. Scripps Clinic & Res. Found. V. Genentech, Inc., 18 USPQ.2d 1001 (Fed. Cir. 1991). All of the limitations of the claim must be inherent or expressly disclosed and must be arranged as in the claim. Constant v. Advanced Micro-Devices, Inc., 7 USPQ.2d 1057 (Fed. Cir. 1988). The applied reference fails to teach all of the limitations of Claim 14.

Claim 14 is allowable for at least this reason. Claims 38, 68, and 98 are allowable for at least similar reasons as Claim 14. Claims 15-16, 26, 28, 40, 42, 43, 47-49, 69, 70, 72,73, 77-79, 99, 100, 102, 103, and 107-109 depend from Claims 14, 38, 68 and 98 and are allowable for at least similar reasons.

Claims 52-54, 82-84, and 112-114 are rejected under 35 U.S.C. § 102(b) as being anticipated by Schmidl et al., U.S. Pat. No. 5,723,113. This rejection is respectfully traversed.

With respect to Claim 52, Schmidl et al. do not disclose **sampling short and long training symbols of a preamble** of a data packet to generate a received signal; **correlating at least two adjacent short training symbols to generate a first correlation signal and identify a start time of the long training symbols.**

As best understood by the applicants, **Schmidl et al. disclose using one pair of long training symbols to perform symbol timing synchronization in an OFDM receiver.** col. 11, line 64 – col. 12, line 15. Therefore, Schmidl et al. **do not disclose correlating short training symbols to identify a start time of the long training symbols.**

For anticipation to be present under 35 U.S.C §102(b), there must be no difference between the claimed invention and the reference disclosure as viewed by one skilled in the field of the invention. **Scripps Clinic & Res. Found. V. Genentech, Inc.,** 18 USPQ.2d 1001 (Fed. Cir. 1991). All of the limitations of the claim must be inherent or expressly disclosed and must be arranged as in the claim. **Constant v. Advanced Micro-Devices, Inc.,** 7 USPQ.2d 1057 (Fed. Cir. 1988). The applied reference fails to teach all of the limitations of Claim 52.

Claim 52 is allowable for at least this reason. Claims 82 and 112 are allowable for at least similar reasons as Claim 52. Claims 53-54, 83-84, and 113-114 depend from Claims 52, 82 and 112 and are allowable for at least this reason.

#### **REJECTION UNDER 35 U.S.C. § 103**

Claims 57, 87, 117 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Schmidl et al. This rejection is respectfully traversed.

Schmidl et al. do not disclose generating channel estimates for an orthogonal frequency division multiplexing subcarrier as a function of subcarrier index values **during a data portion** of an orthogonal frequency division multiplexing packet.

As best understood by the applicants, Schmidl et al. disclose generating a timing metric **during training symbols** of an orthogonal frequency division multiplexing packet. An orthogonal frequency division multiplexing packet includes training symbols and a data portion. The training symbols and the data portion occur at different times. **Schmidl et al. do not generate the timing metric during the data portion.**

It is a longstanding rule that to establish a prima facie case of obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 143 (CCPA 1974), see MPEP §2143.03. The applicant respectfully avers that Schmidl et al. neither discloses nor suggests generating channel estimates **during a data portion of an orthogonal frequency division multiplexing packet.**

Since Schmidl et al. fail to show, teach or suggest these limitations, Claims 57, 87, and 117 and their dependent claims are allowable for at least this reason.

### **OBJECTIONS**

The Examiner indicated that should Claim 42 and 43 be found allowable, Claim 47 and 48 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof.

Applicant respectfully avers this objection. Claims 42 and 43 include identifying a **local maximum value** of said filtered sum during the short training symbols. By comparison, Claims 47 and 48 include identifying a **maximum value** of the filtered sum during the short training symbols. Applicant would like to point out that paragraph [0041] of the specification describes the difference between “local maximum value” and

“maximum value” and that the terms are sufficiently differentiated to merit individual claims. Therefore this objection is believed to be moot.

**ALLOWABLE SUBJECT MATTER**

The Examiner states that Claims 7-12, 17-27, 44, 46, 50, 51, 58, 59, 74-76, 80, 81, 88, 89, 104-106 would be allowable if rewritten in independent form.

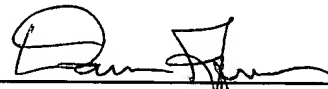
Applicant has amended Claims 17, 44, 58 and 88 into independent form. Therefore, these claims and their dependent claims 18-24, 46, 58 and 89, respectively, are also allowable. Applicant reserves the right to amend the remaining Claims into their originally allowable form at a later date if needed.

## CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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